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COOPERATION BETWEEN TWO-YEAR AND FOUR-YEAR COLLEGES.

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GROWING ATTENTION TO ARTICULATION AMONG JUNIOR AND SENIOR COLLEGES HAS RESULTED FROM THE INCREASED NUMBER OF COLLEGES, RECOGNITION OF PROBLEMS OF TRANSFER STUDENTS, AND ENROLLMENT PRESSURES AT ALL LEVELS OF HIGHER EDUCATION. EFFECTIVE ARTICULATION REQUIRES WIDESPREAD KNOWLEDGE ABOUT TRANSFER STUDENTS, BASED UPON RESEARCH DATA. ALTHOUGH "TRANSFER SHOCK" OCCURS, JUNIOR COLLEGE STUDENTS ARE GENERALLY SUCCESSFUL AFTER TRANSFER TO SENIOR INSTITUTIONS. DEFINITION OF ROLES AND CHARACTERISTICS OF INSTITUTIONS WILL HELP STUDENTS TO CHOOSE APPROPRIATELY. ALTHOUGH THE 2-YEAR AND 4-YEAR COLLEGES AND THE UNIVERSITIES HAVE CERTAIN OVERLAPPING FUNCTIONS, ROLES CAN BE CLEARLY DELINEATED. CHANGES IN COURSE CONTENT NECESSITATE CAREFUL ARTICULATION IN INSURE CONTINUITY OF PROGRAM. INSTRUCTIONAL PERSONNEL QUALIFIED FOR JUNIOR COLLEGE TEACHING MUST BE PREPARED IN SENIOR INSTITUTIONS, WHICH MUST CAREFULLY EXAMINE THEIR PROGRAMS IN TERMS OF PERSONNEL SUPPLY AND DEMAND IN JUNIOR COLLEGES. THIS ARTICLE IS PUBLISHED IN "SCHOOL AND SOCIETY," VOLUME 94, NUMBER 2277, APRIL 16, 1966. (WO)

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Cooperation Between Two-Year and Four-Year Colleges

By CLYDE E. BLOCKER
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INTERINSTITUTIONAL COOPERATION in American higher education is somewhat analogous to the relationships between man and wife. There is general compatibility and cooperation, but there are a number of frictions and irritants which require constant compromise and individual adjustments by both partners. So it is in higher education. The faculties of both two-year and four-year colleges have the best of intentions, for the most part, but there are areas in which misunderstanding and lack of knowledge call for the best in educational statesmanship directed toward reconciliation and more effective cooperation.

Before 1960, the primary thrust for articulation of educational programs was between colleges and secondary schools. During the past six years, there has been growing concern and attention to relationships between two-year and four-year colleges. This change is the result of at least three factors: the growing number and importance of junior and community colleges whose enrollments have increased to over 1,000,000 students in 1965, recognition of the problems inherent in the transfer of students from one college to another, and the mounting enrollment pressures in all of higher education. The purpose of this essay is to identify four areas of essential cooperation and to suggest some guidelines for the effective implementation of action programs by both types of colleges.

The question of the academic success of students transferring from community colleges to four-year institutions is of cardinal interest to college and university faculties. Achieved grade point averages is one index of the adequacy of educational programs in two-year colleges. In spite of the availability of extensive substantive evidence, there continues to be some disquiet among university faculty members that two-year colleges are somehow inferior to four-year institutions in terms of quality of educational programs. Much of such criticism is unwarranted by the facts. All too often, faculty members' reactions are colored by personal bias rather than an objective response to reality. The first need then for effective articulation—so obvious it is often overlooked—is widespread knowledge about transfer students, their abilities, and their problems. Faculty opinions of the quality of two-year college students should grow out of research data rather than from armchair speculations.

The most abundant evidence on the success or failure of transfers is available in California, where the records of such students have been studied for many years. Comparisons of the academic performance of transfer students have been made for those who move from public junior colleges to the University of California, those who transfer from one campus of the University of California to another, and those who move from state colleges, private four-year colleges, and out-of-state colleges to one of the university campuses. Comparisons have also been made with students who enter the Berkeley and Los Angeles campuses as freshmen. It is important to note in these data that students transferring from junior colleges to the University of California were divided into two groups: those who were eligible for admission to the university when they entered a junior college, and those who were ineligible for such admission at the time they entered a junior college. In order to be eligible for admission as a freshman to the University of California, the applicant must rank in the upper 15% of his high school graduating class. What were the results?

Eligible junior college transfers made a 2.34 grade-point average ($C = 2$) during their first semester on one of the five campuses of the university. Ineligibles made a 2.31 grade-point average (GPA). Inter-campus transfers GPA's ranged from 2.52 to 2.67; state college transfers were at 2.43; and private college students achieved a 2.60 GPA. Out-of-state transfers were on the high side, with 2.65. Native freshmen students at Berkeley had a 2.47 GPA, and at U.C.L.A., a 2.37 GPA. Thus, it is apparent that while there is some difference between the grades of transfers from various kinds of colleges to the University of California, junior college students, on the whole, were scholastically successful competitors in the university.

California also conducts a continuing follow-up of the academic success of students as they progress toward graduation. A three-year study of junior college transfers (1962-65) showed that both eligible and ineligible junior college trans-

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fers did a creditable academic job during the period. Of the eligibles, 20% made a B or better average, while 23% made less than a C average. The ineligibles were somewhat less successful, 16% making B or better and 29% making below a C average.[1]

This study shows that slightly more than three-fourths (77%) of the eligible junior college transfer students achieved satisfactory academic records. Almost two-thirds (61%) of the ineligible students also were successful. In view of the high caliber of freshmen admitted to the University of California, transfer students were quite successful in competing with native students having outstanding academic and intellectual ability. There is little doubt that a large number of these students probably never would have completed a baccalaureate degree if they had not had access to a two-year college.

A much more extensive series of studies of transfer students was completed by Knoell and Medsker.[2]

These studies included 7,243 students from 43 four-year institutions classified as major universities, teachers colleges, other state colleges and universities, private colleges, and technical schools. The institutions were distributed over the entire U.S. It was found that, three years after transfer to four-year colleges, 62% had graduated, 9% still were enrolled, 19% had withdrawn voluntarily, and 10% had been dismissed from the four-year college.[3] Academic performance of transfer students is quite comparable to that of native juniors and seniors, when one is aware that only slightly over 48% of all individuals entering higher education receive a first baccalaureate or professional degree in four years.

The authors noted that there was "transfer shock" when junior college students entered their first semester of study in four-year institutions. The data indicated, however, that those students who persisted improved their academic averages each semester until graduation. Knoell concluded, among other things, that junior college transfer students are generally successful after transferring to four-year institutions; there should be more careful articulation between the two kinds of colleges in order to insure the proper matching of transfer students and institutions at the upper division level; four-year institutions, particularly major state universities, are not matching their admissions standards of junior college graduates with their own academic requirements, so that when transfers are admitted they have some chance of successfully competing with native students; and there are some significant differentials in junior college grading which should be examined in relation to each four-year college to which students are transferred in order to make possible a more appropriate choice of four-year institution by the transferring student.[4]

Institutional diversity is a hallmark of American higher education. Few, if any, would contend that the standardization of colleges and universities would be anything but regressive. On the other hand, it is clear that all types of colleges would profit from a comprehensive and practical delineation of their roles. One sometimes gets the impression that a common characteristic of higher education is intra- and inter-institutional anarchy. Many institutions still are plagued with the delusion that the university is the repository of *all* knowledge and not a few institutions are audacious enough to believe that they can effectively supply all or nearly all existing types of general and specialized education. This issue is particularly important in view of the rapid expansion of two-year colleges. The problem certainly cannot be ignored in any discussion of articulation in higher education.

There is little doubt that the ordinary citizen is ready and willing to provide financial support for higher education for all students who can profit from such experience. This desire may be temporarily frustrated by special interest groups and politicians who resist additional expenditures for the public welfare, but in the long run it is apparent that state and Federal support of colleges and universities will be provided in sufficient quantities to meet the needs of our citizens. The issue is not whether the money will be forthcoming, but whether it will be spent in the most economically and effective way.

A number of states—California, Washington, Florida, Texas, and Michigan—have defined the roles of various types of institutions rather effectively. Their criteria for definitions generally center around students, educational services, and costs.

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[1] *Annual Report to California Public Junior Colleges on the Academic Achievement of Junior College Transfers in the University of California, 1964-1965* (Berkeley: University of California, 1965).

[2] Dorothy M. Knoell and Leland L. Medsker, *Factors Effecting Transfer Students from Two- to Four-Year Colleges: With Implications for Coordination and Articulation* (Berkeley: University of California, 1964); Dorothy M. Knoell and Leland L. Medsker, *Articulation Between Two-Year and Four-Year Colleges* (Berkeley: University of California, 1964).

[3] *Ibid.*, p. 12.

[4] Dorothy M. Knoell, *A Digest of Research Findings: National Project for Improvement of Articulation Between Two- and Four-Year Colleges* (Berkeley: University of California, 1964).

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The public and private four-year colleges and universities have the responsibility for serving selected students who can meet the most rigorous academic requirements at the time of first admission. A large percentage of these students have the ability to enter and complete graduate studies. In contrast, the two-year colleges serve a much broader range of academic ability, level of aspiration, and motivation in their students. Students also vary, to a greater degree, in age and maturity. Thus, the students in two-year colleges more nearly reflect the characteristics of the general population than students in four-year institutions.

It is entirely feasible for two-year colleges, four-year colleges, and universities to delineate mutually exclusive and complementary educational roles in terms of educational services offered. Each type of institution has a cluster of overlapping functions, *e.g.*, lower division, liberal arts, and pre-professional programs, but it also has certain more specialized activities peculiar to its institutional ambitions, goals, and over-all educational mission. This question relates primarily to public institutions, and, in the context in which I write, the issue is clouded, at least in some states, by the intrusion of political influences into educational decision making. It seems clear that society is willing to assign certain educational responsibilities to public two-year colleges, others to publicly supported four-year institutions, and still others to state-supported universities. The reluctance of college administrators to develop mutually compatible definitions of roles is not only economically but also educationally unsound, and in the long run may lead to policy decisions by state governments which are detrimental to all of public higher education.

There also must be a recognition by all types of colleges and universities that there are substantial differences in costs incurred in the education of students of the junior division, the senior division, and on the graduate and professional levels. Again, this is a particularly important matter which should be considered by the educational leadership in public institutions. Little is gained by institutional lobbying in state legislatures in competition with other publicly supported colleges and universities. In the long run, we must recognize that each segment of higher education requires financial support tailored to its needs, and that cooperation among institutions in their relationships with state government will contribute to the welfare of all.

Until about 15 years ago, changes in the content of subject-matter disciplines were relatively slow. Although there were gradual changes and additions to knowledge, the pace was leisurely and there was little difficulty in maintaining continuity of content from secondary school to college. This is no longer the case. Changes in all disciplines are taking place with unbelievable speed, thereby creating serious problems of coordination among colleges and secondary schools. Students who transfer from one level to the other often may find themselves in academic difficulty as a result of the lack of continuity of course content.

There has been a continual shift of course content from college to high school, and from graduate to undergraduate levels in college. Material taught in the humanities, sciences, and mathematics to freshmen and sophomores in earlier generations is now being taught to high school juniors and seniors. The engineer who graduated in 1950 had quite a different curriculum than the graduate of 1965. The engineer of today begins calculus as a senior in high school or a freshman in college. In earlier years, calculus was taken in the sophomore year. Another course, fluid mechanics, was in the upper division 20 years ago, but it is now recommended for the sophomore year.[5]

These changes have increased the need for the careful articulation of content by teachers on all levels so that there is the least possible overlap and an assurance of continuity of content for students.

Mathematics is another area which has undergone rapid change in recent years. The result has been, in some instances, the disjointing of the sequence of teaching mathematical concepts and processes essential to understanding the next higher abstraction. This problem came to the attention of a university dean some years ago when he found that junior college transfers could not even understand the language the mathematics professor was using, let alone learn the concepts and processes which made up the course.

As the number of students in higher education has expanded, there have been changes in instructional techniques and faculty-student relationships which beg for study and understanding by faculties in all types of colleges. The pressure of enrollment has forced teachers to serve larger class sections and more students with consequently less personal contact with individual students. The student is on his own to a greater degree today than ever before. He is expected to study and learn with little direction from the

[5] Statement by the Association of the Deans of Colleges of Engineering in Pennsylvania, 1964.

professor. Mechanization of teaching is now widespread. In most two-year colleges he is in comparatively small classes and has a closer personal relationship with his instructors than is possible on the university campus. When he arrives at the university as a junior, he is expected to assume responsibility for himself to meet the pace set by native students, even though he may have a deplorable lack of skills and experience necessary to prepare him for such a challenge.

The development of cooperative relationships and effective lines of communication between two-year and four-year institutions is imperative if we are to provide a meaningful continuity of educational experience for the many junior college graduates who will arrive on college and university campuses in the future. Such articulation must take place on a number of levels. Most important is the development of effective relationships and understanding among faculty members in both types of institutions along subject matter discipline lines. There should be continuing dialogues among faculty members, department chairmen, and academic deans, so that as changes take place in both upper and lower divisions community college personnel can participate in the decision making process and can effectively reflect such changes in their courses on the home campus. Such articulation should not be a one-way street, the university talking down to the community college, rather, an effective partnership should be established on the basis of a sound professional relationship. Community colleges have something to contribute to the improvement of instruction and changes in course content which can be of value to four-year institutions as well. Provincialism and isolation by either group can only militate against the welfare of students.

Two-year colleges look toward four-year institutions to prepare qualified academic and administrative personnel. The obvious lack of an adequate number of such individuals has reached virtually crisis proportions. In 1965, 50 new two-year colleges were established. Pennsylvania plans to establish at least four public community colleges each year until the state system includes at least 26. Similar expansion is taking place in Ohio, Florida, North Carolina, Virginia, and Illinois.

Today, the college administrator finds it necessary to pirate the faculties of high schools and financially weaker two- and four-year colleges for faculty replacements and additions. The private four-year liberal arts college is particularly vulnerable to such raiding if it does not have a large endowment income and a national reputation. Student tuition rises each year, increased because of economic pressures beyond the control of the private institution. Yet, boards of trustees are hard pressed to maintain competitive faculty salaries which will make it possible for them to retain their better people. Many private two-year institutions, and a few public community colleges, find themselves in the same dilemma. There is a constant flow of personnel from private to public colleges, and from public colleges not having adequate support to new and viable community colleges.

The dimensions of this problem became apparent when one examines faculty growth in a few representative states. The number of two-year college faculty members in Florida increased from 1,977 in the academic year 1962-63 to 2,300 in 1963-64. Missouri increased from 662 to 946, and New York increased from 4,301 to 5,166.[6]

In 1965, there were 44,405 community college teachers. Community colleges need the infusion of 10-20%, or from 4,000 to 8,000 new teachers and administrators, into the system each year. Such additional numbers would account for normal losses through attrition and the rapid expansion in the number of such colleges annually.

Another aspect of this problem is the rapid development of new career fields, changes in the preparation of individuals for technical and semiprofessional positions, and the resulting need for qualified instructional personnel. The resulting needs for qualified teachers can be illustrated in several fields of employment.

The first experimental programs for the preparation of registered nurses in community colleges were begun in the early 1950's. There were seven institutions initially involved in the experiment. Since that time the number of community colleges offering two-year programs for the preparation of registered nurses has increased to 175. Each of these programs needs from one to five teacher replacements each year, yet the output of nurse educators from universities having such programs has not kept pace with community college needs. Other professional personnel is also required in chemistry, biology, social sciences, and the humanities. The enactment of Medicare, with resulting population pressures upon hospitals, convalescent homes, and clinics, will contribute to a further shortage of registered nurses and personnel qualified to train such nurses.

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[6] *Junior College Directories* (Washington: American Association of Junior Colleges, 1964-1965), pp. 30, 24, respectively.

A serious shortage of personnel also exists in the engineering technologies. Preparation of teachers in traditional vocational education curricula is not adequate training for community college teachers in electronics, civil technology, mechanical technology, and engineering design. The preparation of baccalaureate degree engineers has moved from the applied level to the upper reaches of abstractions in science, leaving a gap which must be filled by technicians. When the community college administrator attempts to seek a qualified faculty in the engineering fields, he finds that, with few exceptions, universities have not recognized nor made provision for the education of such professional personnel.

Colleges and universities having graduate schools should carefully examine the faculty needs of two-year colleges. If they did so, they would find pressing needs for academically competent personnel which it is their responsibility to supply. Unfortunately, most universities have been unable or unwilling to examine the current picture of supply and demand of two-year college personnel with an eye to overcoming the serious shortages of supply.

We have touched upon four areas in which articulation between two-year and four-year colleges is imperative. It is apparent that, for the majority of students in the U.S. in the future, a two-year college experience will be an intervening variable between the high school and the four-year college or university. There is little doubt that the two-year college is emerging as the institution which will serve a very large majority of all freshmen and sophomores. Efforts toward articulation with supporting institutions must, therefore, shift from the high school-four year college to the two-year college-four-year college. Four-year institutions might be well advised to determine what problems exist and, secondly, to find ways of working effectively with two-year college personnel.

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Editorial

COOPERATION IN HIGHER EDUCATION

No institution of higher education can be an island unto itself. The university necessarily depends on other institutions of similar status and their personnel for the preparation of its professors; for the publication of textbooks, monographs, and other materials of instruction, and for a variety of other services which enable it to perform its educational function to the fullest possible extent. From this point of view, it can be said with justice that all universities exist in an increasingly interdependent world and, accordingly, they are cooperating with many others in a common quest toward the advancement of learning. Although conscious, deliberate, and official cooperation among universities has tended to be a less frequent occurrence, it has turned out to be more and more important in our own time.

That instances of collaboration among universities, both on the domestic and the international scene, are multiplying is evident from a glance at any issue of the professional journals and even from a glimpse of the daily newspaper. Not long ago, there was a report concerning the plans for the establishment, in the fall of 1968, of a new undergraduate liberal arts college in western Massachusetts with the combined academic support of Amherst, Mount Holyoke, and Smith Colleges and the University of Massachusetts.

In a leading article of the January, 1966, issue of the *Journal of Higher Education*, Pres. Eldon L. Johnson of the Great Lakes Colleges Association reported perceptively on the basic principles making for a successful program of collegiate collaborative activity. The same issue carried an analytical editorial on this theme. The front page of the *New York Times*, under date of Feb. 20, 1966, carried an account of the agreement by Fordham University, a Jesuit school, and Union Theological Seminary, a Protestant institution, to pool their graduate faculties, courses, and library resources. Individualistic parochialism has been dealt a serious blow by this and other actions.

Anyone observing the higher educational scene must have noticed the proliferation of conferences, symposia, speeches, and other forms of oral communication devoted to institutional cooperation. Compilations of papers in book form have begun to appear with greater frequency. In short, the air is full of plans, projects, pacts, and promises to bring universities closer to each other in a campaign to elevate the level of higher education in general or of one aspect of it in particular.

Those who have done thinking on the development of interinstitutional cooperation are aware of the problems, perplexities, and pitfalls lurking in this system of action. Nevertheless, apart from expressing caveats, few openly have dissented from this popular practice. Some, indeed, operation would . To some ex- ch a desire. On tion in learning educative process in the fact that of others, and

ch should prove iversity as well. ion and coopera- can make their libraries freely available, as, indeed, they have done to an extent through inter-library loans, and thus aid all students and scholars. At the same time, they can proceed to improve their holdings in an effort to reach the highest level of bibliographic excellence. The competition